

R E M A R K S

An Office Action was mailed on September 3, 2009. Claims 13-14 and 18-28 are pending. New Claim 29 has been added; no new matter has been added.

Claim 27 and 28 stand objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and/or cannot depend from any other multiple dependent claim. In response claims 27 and 28 have been amended to refer to only one other claim. Accordingly, applicants request removal of this objection.

Applicant appreciates the Examiner's indication that claims 21-24 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitation of the base claim and any intervening claims. However applicant has refrained from rewriting these claims and believes they are allowable for the reason noted below.

Claims 13-14, 18-20 and 25-26 stand rejected under 35 U.S.C. §102(e) as being anticipated by Baumagarte et al. (U.S. 2003/0003553).

Independent claims 13-14 recite the limitations of "the set of spatial parameters including a parameter representing a measure of similarity of waveforms of the multi-channel output signal, wherein the measure of similarity a value of a cross-correlation

function at a maximum of said cross-correlation function of the multi-channel output signal.” Applicant respectfully submits that the cited Baumagarte fails to teach or suggest the above limitations.

Baumagarte discloses a method for simultaneous placement of a number of sources in auditory space, said method depending “only on one combined signal (i.e. a mono signal, see [0013]) with additional side information (auditory scene parameters), see [0082]. Additionally a method for generating the monophonic signal and the auditory scene parameters is disclosed. The auditory scene parameters that are associated with each source signal are interaural level difference (ILD), interaural time difference (ITD) or HRTS. The ILD and ITD determine the perceived lateral position of a sound source in the horizontal plane, see [0041]-[0044], or as stated in <http://en.wikipedia.org/wiki/ITD>, ITD is the difference in time of arrival of a sound between e.g. two ears of e.g. a human or animal.

The Office Action indicates that the limitation of “the set of spatial parameters including a parameter representing a measure of similarity of waveforms of the multi-channel output signal” is shown in [0073, 0082], applicants respectfully disagree. This section simply teaches a time/frequency transform of the input signal. The Office Action further notes that “frequency is a function of time”, but does not indicate how that teaches the above limitations. Accordingly, applicant can find nothing that teaches “the set of

spatial parameters including a parameter representing a measure of similarity of waveforms of the multi-channel output signal.“

The Office Action indicates that the limitation of “wherein the measure of similarity a value of a cross-correlation function at a maximum of said cross-correlation function of the multi-channel output signal” is shown in [0074], applicant respectfully disagrees. This section teaches that the cross-correlation value between the converted left and right audio signals can be used in deriving the spatial parameters e.g. ILD and ITD. Nothing therein teaches a “measure of similarity... *cross-correlation function* of the multi-channel output signal”, as claimed.

Claim 18 recites the limitations of “a decorrelator unit (401) for generating from the composite digital signal a decorrelated version of the composite digital signal, a matrixing unit (403) for receiving the composite digital signal and the decorrelated version of the composite digital signal and generating therefrom a replica of the first and second digital audio signal component,...” Applicant can find nothing in Baumagarte that teaches these limitations.

The Office Action indicates that the above limitations of claim 18 are shown in Fig. 7, item 704; [0067]. Applicant respectfully disagrees. In this section Baumagarte teaches that the “auditory scene synthesizer 704 of FIG. 7 applies different sets of specified level and time differences to the different dominated frequency bands in the

combined signal to generate the left and right audio signals..." Nothing therein teaches a "decorrelated version of the composite digital signal." As further described in the specification on page 19, lines 25-34 the decorrelator does not simply apply different sets of specified level and time differences to the different dominated frequency bands in the combined signal, but instead:

Fig. 4 illustrates a decorrelator for use in the synthesizing of the audio signal. The decorrelator comprises an all-pass filter 401 receiving the monoaural signal x and a set of spatial parameters P including the interchannel cross-correlation r and a parameter indicative of the channel difference c . It is noted that the parameter c is related to the interchannel level difference by $ILD = k \cdot \log(c)$, where k is a constant, i.e. ILD is proportional to the logarithm of c .

Preferably, the all-pass filter comprises a frequency-dependant delay providing a relatively smaller delay at high frequencies than at low frequencies. This may be achieved by replacing a fixed-delay of the all-pass filter with an all-pass filter comprising one period of a Schroeder-phase complex (see e.g. M.R. Schroeder, "Synthesis of low-peak-factor signals and binary sequences with low autocorrelation", IEEE Transact. Inf. Theor., 16:85-89, 1970). The decorrelator further comprises an analysis circuit 402 that receives the spatial parameters from the decoder and extracts the interchannel cross-correlation r and the channel difference c .

Further, nothing in Baumagarte teaches "generating therefrom a replica of the first and second digital audio signal component". Again Baumagarte teaches "level and time differences are applied symmetrically to the spectrum of the combined signal to generate the spectra of the left and right audio signal according to Equations (4) and (5)..."

Next, the Office Action indicates that the limitations of "the replica of the first digital audio signal component being a linear combination of the composite digital signal and the decorrelated version of the composite digital signal, using multiplier coefficients

that are dependent of the parameter signal, the replica of the second digital audio signal component being a linear combination of the composite digital signal and the decorrelated version of the composite digital signal, using multiplier coefficients that are dependent of the parameter signal” are “implicit”. Applicant respectfully disagrees.

Nothing in Baumagarte teaches these limitations. The Office Action seems to acknowledge what is further lacking in the cited reference, in that it concludes that “..that these limitations are [not shown but is] implicit...” Moreover, where is the suggestion found in Baumagarte? If the suggestion is not there, why would someone of ordinary skill in the art decide to modify in the claimed manner?

Where a feature is not shown or suggested in the prior art references themselves, the Federal Circuit has held that the skill in the art will rarely suffice to show the missing feature. Al-Site Corp. v. VSI International Inc., 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999) (Rarely, however, will the skill in the art component operate to supply missing knowledge or prior art to reach an obviousness judgment).

Thus, it is not seen how the above statement that the above limitations are implicit..., without improper hindsight by "use[ing] the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention," see *In Re Denis Rouffet*, 47 USPQ.2d 1453, 1457-58 (Fed. Cir. 1998). The Federal Circuit in *In re Rouffet* stated that virtually all inventions are

combinations of old elements. Therefore an Examiner may often find many elements of a claimed invention in the prior art. To prevent the use of hindsight based on the invention to defeat patentability of the invention, the Examiner is required to show a motivation to combine the references and further a motivation to modify the combination to justify a finding of obviousness. Applicant respectfully submits that the Examiner has not met this burden.

The only suggestion that can be found anywhere for making the modification appears to come from the present patent application itself.

How can the Office Action espouse that the modification forwarded does not include knowledge gleamed only from the applicant's disclosure? If this reconstruction did not come from the present application, where did it come from? The reconstruction and modification certainly did not come from the prior art. Even the Office Action does not point to any portions of the prior art for teaching the suggestion reconstructions/modification as pointed out above.

In consideration of the use of improper hindsight for rendering a claim obvious in light of prior art, the Federal Circuit has stated that "to draw on hindsight knowledge of the patented invention, when the prior art does not contain or suggest that knowledge, is to use the invention as a template for its own reconstruction - an illogical and inappropriate process by which to determine patentability." (Sensonics, Inc. v. Aerosonic

Corp., 81 F.3d 1566, 38 USPQ2d 1551 (Fed. Cir. 1996). "To imbue one of ordinary skill in the art with knowledge of the invention ensued, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." (In re Zurko, 111 F.3d 887, 42 USPQ2d 1476 (Fed. Cir. 1997). "A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field (cited reference omitted). Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher (cited references omitted).'" (In re Kotzab, 208 F.3d 1352, 54 USPQ2d 1308 (Fed. Cir. 2000).

Applicant would like to bring to the Examiners' attention well established case law that clearly shows that the court frowns on such use of hindsight, examples of such cases being as follows:

The Supreme Court in Calmar, Inc. v. Cook Chemical Co., 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966), in which the Court warns the dangers of "slipping into hindsight", citing the case of Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply

Co., 332 F.2d 406, 141 U.S.P.Q. 549 (6th Cir., 1964), where the doctrine is stated (emphasis added):

We now come to the patented device which after all is the subject matter of this case. At the outset we take note of two well-established principles. The first is that in considering the questions of obviousness, we must view the prior art from the point in time prior to when the patented device was made. Many things may seem obvious after they have been made and for this reason courts should guard against slipping into use of hindsight. We must be careful to "view the prior art without reading into that art the teachings of appellant's invention." Application of Sporck, 301 F.2d 686, 689 (C.C.P.A).

It is accordingly respectfully submitted that the apparatus of claim 18 is not anticipated or made obvious by the teachings of the cited references. Based on the foregoing, the Applicants respectfully submit that independent claim 18 is patentable over the cited references and notice to this effect is earnestly solicited.

Since Baumagarte does not teach all of the limitations of independent claims 13-14, and 18 it cannot render the present invention unpatentable. For at least the above cited reasons, Applicant submits that Claims 13-14 and 18 are patentable over Baumagarte. New claim 29 recites similar limitations as those noted above, and thus is patentable for at least the same reasons.

With regard to dependent claims 19-28 these claims recite these claims depends from one of independent claims discussed above, which have been shown to be allowable

in view of the cited references. Accordingly, claims 19-27 are also allowable by virtue of their dependence from an allowable base claim.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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Date: December 1, 2009

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